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AN
INAUGURAL ESSAY
ON THE
RHEUMATIC STATE OF FEVER,
SUBMITTED TO THE EXAMINATION
OF THE
REVD. JOHN ANDREWS, D. D. PROVOST,
(Pro Tempore);
THE TRUSTEES, AND MEDICAL PROFESSORS,
OF THE
UNIVERSITY OF PENNSYLVANIA;
On the 3d of June, 1805.
FOR THE DEGREE OF DOCTOR OF MEDICINE.

BY GEORGE EVANS,
Of Charleston, South Carolina;
HONORARY MEMBER OF THE PHILADELPHIA MEDICAL SOCIETY.

18
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TO
DR. MATTHEW IRVINE,

OF CHARLESTON, SOUTH CAROLINA.

Much respected Sir,

PROMPTED by inclination and a sense of duty, I thus embrace this favourable opportunity of publicly tendering you my acknowledgment and sincere thanks, for the many obligations I owe to you as a preceptor; your acceptance of which, will confer an honour on your sincere friend,

And affectionate pupil,

THE AUTHOR.

W. O. Mendenhall
from his friend
G. V. Faraday

TO
THOMAS TUDOR TUCKER, M. D.
Treasurer of the United States,
AT WASHINGTON.

Dear Sir,

WITH mingled sentiments of gratitude and affection, excited in my breast by your generous and parental conduct towards me, I hasten to offer you this tribute, I conceive to be so eminently your due; which if it does not compensate for past favours, will, I hope, at least convince you of the sincerity of my affections. Accept, then, my unfeigned thanks, and warmest wishes for your future health and happiness, which at present ~~are~~ all I can bestow, until a more favourable opportunity shall occur, to reward you according to the utmost of my wishes.

Your ever dutiful nephew,

And sincere friend,

THE AUTHOR.

TO

ALEXANDER PETRIE, Esq.

OF CHARLESTON, SOUTH CAROLINA,

WHO, actuated by a spirit of philanthropy natural to him, received me as a friend, and cherished me as a son. His accepting of this small, but genuine tribute of affection, as a proof of my intended good wishes towards him, will amply gratify

His ever dutiful,

And grateful nephew,

THE AUTHOR.

INAUGURAL ESSAY, &c.

THE Rheumatic State of Fever belongs to that class of fevers that is attended with local determination. It is peculiar to climates where there are sudden changes of the weather, as from heat to cold, and from moisture to dryness. It is seldom noticed by writers upon diseases of climates that are uniformly warm or cold. It occurs most frequently in autumn and spring, after very warm or cold seasons. It is a common disease among sailors, soldiers, and labourers, who, from their occupations are continually exposed to the vicissitudes of the weather. Hard drinkers and persons of a robust and plethoric habit of body, with a volatile disposition, seldom escape it; and it some-

times happens, that persons of a weak, relaxed and delicate constitution are affected with it. It generally occurs from the age of puberty to thirty-five or forty. It most commonly attacks the large joints, muscles and tendons; though the viscera themselves are not exempted from its ravages.

Nosologists have distinguished it by different appellations, according to the different parts of the body affected by it: as when it attacks the muscles of the chest and creates symptoms similar to those of pleurisy, it has been termed pleurodyne rheumatica; when it affects the bowels and appears somewhat like dysentery, it has been denominated enteralgia rheumatica; when the hips become the seat of the disease, it has been distinguished by the name of sciatica &c. But as all such distinctions only serve to confuse, without affording any practical utility whatever, I shall pass them over in silence, and considering the disease as a unit, shall proceed to give such a general description of it as shall serve as a correct guide, towards a successful method of treatment.

Two stages of this disease have been noticed by writers of all ages, viz. the acute and chronic; but there is another between those two noticed by Dr. Rush under the name of rheumaticula. I propose

to treat of each in the order in which they are related to each other.

OF THE ACUTE RHEUMATISM.

The paroxysm of an acute rheumatism is generally preceded by chills, and shivering, which are soon succeeded by great heat, thirst, and dryness of skin. The patient complains of great anxiety and costiveness. The tongue appears white, and the urine, which at the commencement was high coloured and clear, towards the middle or latter end of the paroxysm deposits a lateritious sediment. The pulse is synocha, or hard, full, and tense. The vessels of the skin appear to be spasmodically affected, from excess of action, hence the stoppage of perspiration and dryness of skin. The pain affects the hip joint, knees, ankles, wrists, and muscles; the latter of which have it much increased upon the least motion or pressure. In point of general frequency, the upper and lower extremities are affected both alike; but the head is less often affected than any other part of the body. There is a redness and swelling round the part affected, which sometimes approaches to the nature of erysipelas, and is very painful to the touch. In some few instances where the disease attacked the ankles, the vascular distension, which

gives rise to the swelling, has taken place to such a degree, as to pit somewhat like in anasarca. The disease sometimes will be marked with a recurrence or exacerbation of the febrile symptoms, the pains will become more general, and the disease will prove more difficult of cure. The fever most commonly comes on before the pains, but the latter sometimes precede the former two or three days. The pains seldom go off before the fever has abated, and now and then they go off together. The patient does not enjoy much rest at night, if the fever and pains are the least severe, especially as the warmth of the bed clothes renders them much worse. In this stage of rheumatism the pains, in general, do not remain stationary, or affect one part more than another; which disposition is always increased with an increase of fever. The pains commonly pursue the course of the muscles, and flying from one joint to another, is sometimes attended with the effect of lessening the pain of the joint last affected. It is a remarkable characteristic of this disease, that it seldom terminates fatally. In a few instances it has had that termination, when the trachea has been the seat of the disease. Dr. Rush mentioned one or two cases of this kind in his lectures. Suppuration does not in general take place, but instead of which, effusions are produced to the great annoyance of the joint.

Sweating sometimes occurs at the commencement of the paroxysm, but does not prove critical or afford any relief. The disease frequently continues for two or three weeks, and as the fever lessens, the pains subside and are less liable to change their situation. The alteration produced in the blood, is similar to that which occurs in pleurisy.

ON THE RHEUMATICULA.

I shall next make a few observations. It partakes of the nature both of the acute and chronic stages, but inclines more particularly to that of the acute. It appears to be nothing more than the acute rheumatism protracted to an unusual period; in consequence of which, the system is much debilitated, so that the natural quantity of stimuli keep up a weak morbid action therein. The pulse is synchula or small, weak and quick, with some degree of tension.

THE RHEUMATALGIA,

Or, what is by authors termed the purely chronic rheumatism, is that affection of the joints and muscles, which consists in very obstinate pains accompanied with stiffness and rigidity of the parts. In

general it is attended with scarcely any febrile symptoms, and but little or no external signs of inflammation. The disease lies deep, affecting those joints that are surrounded with large muscles, that are continually in motion, as the hip joint, &c. The pains are more stationary in this stage than in the acute, being little disposed to change their situation, or to affect more than one or two joints at a time. Effusions are oftener produced in the chronic than the other stages of the disease, which form chalk stones, &c. greatly impeding the motion of the joint. The pulse approaches to that of the typhus, or small, weak and quick without tension. The pains here are not increased by the heat of the bed clothes, nor are they so liable to a recurrence, or translation as in the acute. Elderly persons and those of a phlegmatic temperament, are the proper subjects of the chronic rheumatism. The parts occupied by the disease are not near so painful as in the acute, but rather a deficiency of sensibility occurs. The natural functions are less often affected by it than by the acute.

DIAGNOSIS.

It has been a common practice among writers of all ages, to specify such symptoms of a disease as

were supposed to be peculiar to itself, and which would characterize it from all others. But so variable have diseases become in their nature, and so liable are they to interchange symptoms, that to draw such a line of distinction as would serve as an unerring guide, is a task surmountable but by few, if not altogether impracticable. Indeed, performances of this nature are now known to be of little importance, since it is the *state of the system*, and not the *names of diseases*, that are to guide us in our prescriptions. However, in compliance with custom, I shall endeavour to enumerate such symptoms as have been noticed as attendants upon this disease, and which might serve to distinguish it from others. The rheumatism is more allied to gout than any other complaint; indeed so great is their similarity, that many have been led into error respecting the two diseases. They however differ in a few particulars. First, as it respects their degrees of force. The rheumatism in general is much more mild in its attacks, is of a shorter duration, returns less frequently, (sometimes not more than two or three times during the whole of a person's life), and is much more easy to subdue than the gout. It seldom depends upon a hereditary predisposition, and is generally brought on by external causes; but gout is the frequent offspring of a hereditary predisposition; and arises from internal

causes not altogether obvious. The gout, with a few exceptions, never appears until after middle age, and attacks the smaller joints and viscera; the rheumatism most commonly appears before that period, and attacks the smaller joints and viscera but seldom. The pain in rheumatism wanders more about from one joint to another, affecting two or three at a time; but the pain in gout generally remains fixed, and seldom occupies more than one joint at a time. The part affected by gout is more susceptible of impression, than that affected by the rheumatism. The concomitants of gout are likewise different from those of rheumatism; as when it attacks the stomach, vomiting, indigestion, and flatulency attend, which seldom or never accompany the latter disease.

When the rheumatism, as it frequently does, affects the os sacrum and neighbouring parts, symptoms will occur similar to those from a paroxysm of nephritis; but may be distinguished from it by the absence of vomiting, and the liability of the pain to increase upon the least exertion, or movement. It is with difficulty that rheumatic affections of the muscles of the chest can be distinguished from a common pleurisy, on account of that close connexion which exists between their symptoms. However, from the patient's having formerly suf-

fered by rheumatism, and from the inflammatory diathesis being of very long continuance, we might then with propriety judge of the nature of the disease. Rheumatic affections of the bowels may be distinguished from enteritis, by the pain being less severe, of long continuance, and from the non-occurrence of vomiting. Bloody stools never occur in rheumatic affections of the bowels, nor do they prove infectious, which distinguish them from dysentery.

Scorbutic and venereal affections are sometimes blended with rheumatism, but they may be distinguished by attending to their concomitants. There is a depraved habit of body accompanying scurvy, which has never been remarked in rheumatism. The breath also of scorbutic patients is very disagreeable to the smell, the gums are spongy, frequent nausea and vomiting take place; symptoms which never occur in rheumatism. In syphilis the pains generally affect the middle part of the bones; but the pains in rheumatism is confined to their extremities, which circumstance will serve to distinguish those two diseases.

REMOTE CAUSES.

All such substances as act upon the body either directly or indirectly, so as to occasion debility,

come under this head. The debility induced is either general or partial, and is divided into two kinds; the first from an excess, and the second from a deficiency of action. That produced by the latter cause, is happily termed by Dr. Rush, the debility from abstraction, and is the result of the operation of,—

1st, Cold on the body. The sedative effect of cold is universally acknowledged by physicians. It abstracts from the system those agents which keep up in it a natural and healthy action. Hence the slothful dispositions, languid habits, and uncommonly slow pulses generally observed among the inhabitants of cold climates. The pulse of a Greenlander beats only from forty to forty-five strokes in a minute; whereas the pulse of an inhabitant of a more southern latitude beats from seventy to eighty. From the sedative operation of cold we can readily account for the paleness, and those bumps commonly observed upon the skins of persons exposed thereto, from the cessation or diminution of the action of the capillaries; this likewise explains to us the sudden stoppage of hemorrhages from the same cause. The operation of cold on the system is greater when combined with moisture, as has been proved by the unfortunate experience of hundreds of persons li-

ving near the sea shore ; and from sailors and soldiers being so very liable to this disease.

From long exposure to a damp atmosphere, wearing wet clothes, and suddenly going to a draught of air, when the system is much heated and in a state of perspiration, has repeatedly laid the foundation for this troublesome complaint. Among the innumerable causes which predispose the system to this disease, and which might be ranked under the present head, we find none more common than that arising from a want of accommodation of dress to the various changes of the weather. The absurdity of changing our apparel only with the different seasons of the year must be obvious to every one who reflects in the least upon the unsettled nature of our climate. The greater part of the diseases of spring and autumn, I believe arise from this source.

2dly. Excessive evacuations, whether produced from the skin, bowels, or blood vessels, always induce a great degree of debility in the system forming predisposition, which in many instances has laid the foundation for very obstinate and almost incurable rheumatic affections of the joints, &c. This more frequently happens from the long continued use of mercurial medicines in syphilis,

&c. cases of which have been recorded by some respectable authors.* These are the most frequent remote causes of this disease, which act indirectly in producing their effect. I shall now proceed to the second class, or those which act directly in producing predisposing debility, namely, by exciting excessive action.

1st, Heat. A moderate degree of heat is absolutely necessary for the due maintenance of health and life. It acts as a gentle stimulus to the system in producing that degree of excitement that is favourable to the healthy and natural operations of all its functions. But when in excess and long applied, its effects on the system are just the reverse; inducing langour, lassitude and other symptoms of debility; and in this manner it often acts as the remote cause of this disease.

2dly. Straining, bruises, and exercise when carried on so as to induce fatigue, likewise prove a remote cause of this disease. This readily explains to us why the labouring class of people are so very liable to be affected by rheumatism.

* See Nesbit.

3dly. Excess in eating and drinking, also, a too great indulgence of the venereal passion, are powerful agents in bringing on predisposing debility.

OF PREDISPOSITION.

The debility produced in the system by the various causes just enumerated, universally precedes rheumatism, as well as every other disease. This might easily be proved from the different symptoms and other circumstances commonly attendant upon diseases in general; such as coldness and shivering, weakness of different parts of the body, and drowsiness, together with a weak and quick pulse. Also from the particular time in which they attack, as at night when the system is much debilitated from the different employments and exposures during the day. And likewise the great liability of the system, that has been affected with it, to relapses. This debility is always succeeded by a preternatural accumulation of excitability, or an increased susceptibility to impression. This is proved from this circumstance, that whenever the body becomes suddenly debilitated by straining, &c. the accumulation of excitability instantly becomes so great, as to render the system incapable of bearing the least overplus, or even the natural quantity

of stimuli, without having some degree of morbid action excited in it. The frequent occurrence of this, as well as other inflammatory diseases, in spring, can be easily explained upon this principle. The system being continually exposed to the inclemency of the preceding winter, has its excitability much accumulated, which is immediately acted upon by the heat afforded by the vernal sun, in such a way as to produce the disease. In like manner, the sudden changes of the weather and shifting of the wind, which so commonly happen in autumn, debilitate the system and thereby occasion the disease. The unhappy effects produced on the body by these sudden changes, naturally suggest to us a caution against taking draughts of cold water when it is in any measure heated above the natural temperature. It is a practice but too common, although attended with such pernicious effects. Likewise the custom, after being exposed for some time to a cold or damp atmosphere, of drinking ardent spirits, cordials, &c. which acting upon the accumulated excitability produce disease.

OF THE EXCITING CAUSES.

That state of the system constituting predisposition, was formerly considered by physicians as disease itself; but late and more accurate investiga-

tors of the healing art, have shown it to be only its precursor. For disease consists in action, and that irregular; and predisposition only an increased aptitude to action. It must then be evident, in order that disease should be produced, that certain causes must interfere to excite the system into action, these substances are called the exciting causes. Many instances have been recorded of the body's remaining in a state of predisposition for months, and even years, without having the least disease produced therein. Indeed, we need only refer to the daily occurrence of facts to support this opinion. How often do we not see persons, after labouring under debility for a length of time, finally recover from that state, without being the least diseased, owing to the exciting causes being withheld? From this fact we learn the possibility of preventing disease in its forming state. And the prophylaxis consists only in regulating at that critical juncture, the diet, dress, &c. of our patient, to the state of his system. These directions, when properly followed, have been attended with the happy effects of preventing disease in wearing away the predisposition to it, by exciting a regular and healthy action in the system. As it is only in consequence of its being exposed to the operation of adventitious stimuli, that are disproportionate in quantity to its

excitability, that such commotions are therein produced as form what is called disease.

That disproportionate stimuli acting on a preternatural accumulation of excitability, should produce such commotions in the body, is no new law of the animal economy. We see it daily illustrated in the common diseases of the arterial system. As soon might we expect to see a vessel ride with the same degree of ease and safety, in a gale of wind, as in a calm; as to expect that a regular and equal degree of excitement should be produced in the system, as in health, when under the operation of stimuli that are disproportionate to its excitability. The system being then in a state of debility, and its excitability greatly accumulated, we may easily foresee what would happen from exposure to the heat of the sun, or that of a stove room; disease will inevitably be the consequence. Heat applied either generally or partially to the body, after it has been exposed to the operation of cold, frequently has this effect. The inordinate use of spirituous liquors, particularly at those times, as I formerly hinted, when the system has been debilitated by the dampness of the weather, &c. proves a fruitful source of this disease. Exercise continued so long as to produce fatigue, likewise strains, bruises, &c. frequently induce it.

OF THE PROXIMATE CAUSE.

As the cure of every disease to which the system is liable, depends wholly upon a knowledge of its proximate cause, it will not surprise us to find, that it has been anxiously sought after by physicians of all ages. But various have been the result of their researches in this important branch of medical science. Some attributing it to a lentor of the fluids obstructing the vessels; some to a morbid matter in the system; whilst some ascribe it to an acrimony of the fluids; others again to a spasm affecting the extreme arteries. To admit implicitly either of the above doctrines, without examining into their merits, would be acting in a manner contrary to just reason, and sound philosophy. The acrimony of the fluids to which the proximate cause of this disease has been ascribed, seldom or never exists; and when it does, it is only after the disease has been formed, and continued for a length of time, as in the chronic rheumatism. Hence the impropriety of ascribing it to the accidental occurrence of this circumstance. The lentor of Boerhaave exists only after violent, or great defect of action; and appears to be the effect of disease in the one instance, and the exciting cause

of it in the other. With regard to the existence of morbid matter in the system, to which Dr. Sydenham and others attributed the proximate cause of this disease, it has eluded the researches of the most sagacious and attentive observers in medical science; and there are few physicians that are now disposed to favour such a doctrine.

The spasm of the extreme vessels, which in Dr. Cullen's opinion formed the proximate cause of this disease, appears equally fallacious. For it is observed to take place in the greater number of instances, after that action in which disease consists is formed. It however now and then co-exists with the disease, and appears to be rather its form, than its proximate cause. The rheumatism is sometimes so mild as to prevent the occurrence of this phænomenon. These objections I consider of sufficient importance to warrant my rejecting spasm as its proximate cause.

Among other medical philosophers that have investigated this truly difficult subject, none seems to have been crowned with more success, than the illustrious Professor of the institutes of medicine in this university. It is his doctrine which appears to accord best with the simplicity of nature, and the various phenomena of diseases; and it is his

that is now almost universally adopted by physicians in explaining their proximate causes. The Doctor makes it to consist in nothing more than irregular, morbid, or wrong action; and it is immaterial whether that action exists in the arterial, nervous, lymphatic, or any other system; it still constitutes the essence of disease.

CURE.

From the history of the symptoms, and other concomitant circumstances of rheumatism, it evidently appears to be of an inflammatory nature; and from that action which constitutes its proximate cause being excessive, and irregular, from the loss of equilibrium of the excitement in the system, our indications of cure must then be, 1st, to reduce the excessive excitement; and 2dly, to restore its equilibrium.

The remedies that are found most useful for the accomplishment of those two ends, are, 1st, blood-letting; 2dly, cold; 3dly, sudorifics; 4thly, purges; and 5thly, blisters. On each of these I shall make a few remarks. But before proceeding further it may be necessary to premise, that in the employment of these remedies we must be regulated entirely by the violence of the symptoms, and dura-

tion of the disease; for when it is recent and the pains not very great, and no considerable degree of fever attending, mild and less powerful medicines will answer in subduing it, such as gentle purgatives and mild diaphoretics, &c. It is at this period of the disease in which frictions are found to be of such advantage; its good effects will always be more certain when premised by proper evacuations. But when, as it frequently happens, the febrile symptoms are very high, the pulse hard and tense, the pains almost insupportable, flying from one joint to another, and are likely to continue for any length of time, we must then have recourse to more powerful evacuants, as blood-letting, cathartics, &c.

The propriety of withholding stimulating aliment, and such other substances as might aggravate the disease, or in any measure tend to counteract our prescriptions, must be obvious to every practitioner in medicine. The diet therefore of our patients must be restricted, all animal food should be forbidden, likewise all such as are of a stimulating nature, and hard of digestion; and panada, barley broth, milk, &c. should be substituted in their room. All fermented and spirituous liquors should be particularly avoided. The patient should be directed to take plentifully of mild

diluting drinks, slightly acidulated, such as apple water, tamarind water, &c. Exercise, the warmth of stove rooms, and the warmth proceeding from too much bed clothes, should be guarded against, as they frequently bring on exacerbations of the pains and fever.

Blood-letting is the remedy to be depended most on in this complaint, as it abstracts one of its exciting causes, namely, the stimulus of the blood, from the very seat of the disease, and quickly reduces the excessive and morbid excitement in the system. Its use in this, as well as in all other inflammatory diseases, has occasioned much dispute among physicians of the greatest respectability, with regard to the proper time and quantity in which it ought to be drawn. But much evil and unpleasant controversies might be avoided, by regulating its use according to the state of the system, as indicated by the pulse, a most correct index; for any restrictions of that nature can only tend to an erroneous practice, by occasioning an improper limitation of a remedy that is indispensably necessary, as long as there is the least degree of tension in the pulse, or any considerable degree of morbid action existing in the system. In the commencement of the disease, though gentler remedies might be resorted to, but with much less

advantage, a few ounces of blood being drawn will instantly arrest the disease in its progress, and smother all morbid action. It however is most commonly neglected at this period, and the general symptoms of fever will be increased to a considerable degree, the pulse accompanied with a great deal of fulness and tension, and the pains very violent, frequently shifting their situation and becoming almost general; blood-letting is then loudly called for, and nothing acts more like a charm in lessening these disagreeable symptoms than this powerful evacuant. It should be continued until every sign of inflammation is subdued. Bleeding at the arm alone will not be found sufficient, cupping should likewise be used, or a few leeches applied to the part most inflamed. When these measures are resorted to in time, and judiciously persevered in, we generally find them attended with the effects of lessening the spasms of the capillaries, and of inducing a copious perspiration, that proves in some degree critical. The pains abate in their severity and become more limited, affecting only one or two joints. The swelling and redness of the part that was more particularly the seat of the disease, will disappear in a great measure. But when either from a total neglect, or from a penurious manner of prescribing this noble remedy, the fever continues to increase, the pulse is de-

pressed from excess of action, and the severity of the pains by no means abating, but becoming rather worse, wandering from joint to joint, and from one part of the system to another, until at last the brain is attacked, delirium succeeds, with other symptoms truly distressing in their nature, threatening the patient's life. And unless bleeding or some other remedy that can produce a copious evacuation is immediately had recourse to, the patient either expires from the oppression, or nature relieves herself by effusions, &c. and the disease degenerates into the chronic rheumatism.

The good effects of blood-letting in the rheumaticula, or that stage of rheumatism between the purely chronic and acute, has been proved by the experience of several respectable physicians. Dr. Rush says he has found it to succeed when the bark and other tonic remedies have failed. The quantity of blood necessary to be drawn here, must be in proportion to the degree of tension in the pulse, and other concomitant symptoms of the disease. It sometimes inclines more to the chronic than to the acute rheumatism, and is unattended with fever; blood-letting must then be omitted, and opposite remedies must be instituted in its room, such as the bark, frictions, &c.

Before quitting the subject of blood-letting, I shall take the liberty of suggesting some caution against its improper administration. Although a free use of the lancet is almost indispensable in every inflammatory complaint, yet we ought to guard against its abuse; for the subduction of the febrile symptoms, and suspension of the pains, that might be effected by its unlimited use, by no means compensate us for the ill consequences which are afterwards likely to ensue. The degree of debility produced in the system by it, is extremely difficult to overcome, and frequently lays the foundation for some disease, more troublesome and disagreeable in its nature.

Cold is the next remedy that claims our attention. It is the auxillary to blood-letting, and when used with discretion, and in conjunction with that remedy, facilitates very much the cure of this disease. It may with propriety be considered as an evacuant, as it absorbs that redundancy of heat generated in the system, by the excess of arterial action; which when suffered to remain, tends greatly to aggravate the disease. It is to the immortal Sydenham that we are indebted for the introduction of this invaluable remedy into practice. He first used it in fevers of the highest inflammatory grade, as the small-pox, &c. and from the

uniform success attending it, later physicians have extended its use to diseases of milder grade, with the same good effects. The forms in which it is generally used, are ice, cold bath, and cold air. With regard to the use of the latter, it should be always regulated according to the degree of inflammatory action in the system; when it is not very great, cool, but not cold air, might be employed with the happiest effects. The degree of cold ought to be increased, as the febrile symptoms become greater. Dr. Sydenham being impressed with the necessity of keeping the patients cool in inflammatory diseases, directed them to sit up out of bed every day a few hours, according as their strength permitted them, which not only lessened the violence of the complaint, but also paved the way for the more successful operation of other remedies. Pounded ice in bladders should be applied to the inflamed parts of the body. Cloths dipped in cold water, with the addition of vinegar, may likewise be used. It may be proper to observe here, that unless the application of cold is continued for a sufficient length of time, that is, until the febrile symptoms are in a great measure subdued, it will be often attended with a contrary effect, that of increasing the inflammatory diathesis of the system, by a temporary suspension of the fever, &c.

and increasing its excitability, on which stimuli will act with a double force. After the temperature of the body has been properly reduced by these means, we must then be cautious in restoring its usual degree of warmth; heat should be gradually applied and not carried above the natural standard. The efficacy of the cold bath in chronic rheumatism, has been long noticed by physicians. It has been considered by some as a tonic, but such a quality cannot with propriety be attributed to it; for it is only by increasing the excitability of the system, as I above hinted, whereby stimuli are better enabled to act with a degree of force necessary to produce strength and health; and in no other manner does it appear to exert the least tonic power. Its use must be discontinued immediately, as a necessary degree of debility is induced in the system, or it may be attended with dangerous consequences, and the warm bath had recourse to in its stead.

We will next proceed to make a few observations on sudorifics. They have been used in most inflammatory complaints with success; and are by some physicians, preferred to the lancet. Their operation is however more harsh, and their effects more debilitating to the system than that remedy;

and they frequently fail in affording relief, in consequence of which the disease becomes aggravated. It requires extreme caution in their administration, patients being more liable to relapses, from exposure to the atmosphere, after their operation, than from the operation of other remedies. Their effects are rendered more certain, and less debilitating to the system when preceded by phlebotomy. They are better adapted to the milder forms of this disease, and may with safety be resorted to, when compelled by the prejudices of our patients to forsake more efficacious remedies. After the disease has continued for a length of time, the inflammatory symptoms abated, and nature about to establish a crisis, sudorifics might then be exhibited with safety; but at no other period of the disease while there is much tension in the pulse, are they indicated, unless blood-letting is premised. Weak diluents are often found to answer all the purposes of more strong and powerful diaphoretics, and the less stimulant they are the better. A few drops of antimonial wine, given at the time of going to bed, will often induce perspiration, which should be promoted by the warmth of the bed clothes, &c. The tincture of guaiacum has been proved by the experience of many physicians, to be a valuable medicine in both the acute and chronic

stages of this disease; it not only proves diaphoretic, but likewise removes costiveness. Dr. Dawson, who published a number of cases of rheumatism in which it was used, generally gave it after the febrile and other inflammatory symptoms had been partly subdued by blood-letting, &c. at which time it seldom failed of affording relief. Dover's powder is a remedy much used to promote perspiration. It is likewise given with a view of relieving the pains, and of procuring sleep, which it frequently does. A diarrhoea sometimes attends on rheumatism, which it may be necessary to check; nothing answers this purpose better than the above powder. The warm bath is also a very effectual means of procuring sweat and relief to the pains. It should be made as warm as the patient can conveniently bear it, and continued until a faintness ensues; the patient is then to be removed into a warm bed, and treated in the usual manner.

With regard to the exhibition of purges, little need be said. They are indicated in all inflammatory diseases attended with costiveness; the removal of which tends very much to the reduction of the febrile symptoms, and to aid the operation of other remedies. Their effects are generally more permanent when preceded by blood-letting.

They are not to be entirely relied on, in the treatment of rheumatism, as they appear to be mere auxilliaries. Though some few cases have occurred where the cure of this disease might be attributed wholly to their operation, yet such a plan of treatment, from the length to which we are obliged to carry it, for the accomplishment of a cure, proves extremely hazardous to the patient's life, and is by no means advisable. In support of my opinion, I refer to a case related by Dr. Kirkland in the first volume of his Medical Surgery. In the choice of cathartics, we must be regulated by the state of the system. If no great degree of costiveness attend, the milder sort are to be used, as glauber salts, tremor tartar, &c. but if the patient labours under much costiveness, the more powerful kind are to be preferred, as rheubarb, jalap and calomel, &c.

Blisters constitute one of the most valuable articles of the *materia medica*. But many alarming symptoms sometimes result from their imprudent application, such as strangury, bloody urine, gangrene, convulsions, &c. all of which might be avoided, by paying strict attention to the subduction of the inflammatory symptoms, before recourse is had to them. They are not only attended with the advantage arising from déplétion, but likewise

that of exciting external action, by which means the pains of the joints are greatly lessened. Their application should not be suffered to continue longer than is really necessary to produce the desired effect, which in general, will require twelve or fourteen hours. They are found to be particularly efficacious in the chronic stage of rheumatism.

THE END.

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